

Claims

What is claimed is:

1. A strain of *Paenibacillus polymyxa* HY96-2 is deposited at China General Microbiological Culture Collection Center (CGMCC) on 5 October 31, 2002, under accession number CGMCC No. 0829.
2. A biological formulation containing the strain of claim 1 or cell-free filtrates of its culture broth.
- 10 3. The biological formulation of claim 2, containing the culture broth of claim 1.
- 15 4. The biological formulation of claim 2, containing carriers selected from rice chaff powder, cornstalk powder, peatmoss, calcium carbonate powder, talcum powder, attapulgite clay and diatomite or their mixtures.
5. The biological formulation of claim 4, containing a carrier selected from rice chaff powder, attapulgite clay and cornstalk powder.
- 20 6. The biological formulation of claim 5, containing 3~16% (w/w) water.
7. A method of inhibiting bacterial wilt providing a procedure of applying the formulation of claim 2 to the surroundings of plant roots infected with bacterial wilt.
- 25 8. The method of claim 7 wherein said plants are selected from a group of tomato, green pepper, egg plant, and tobacco.
- 30 9. The formulation of claim 2 wherein said formulation is effective in inhibiting plant diseases including seedling Rhizoctonia, damping off (*Pythium aphanidermatum*), tomato *Fusarium* wilt, eggplant *Fusarium* wilt, cucumber *Fusarium* wilt, Tobacco brown leaf spot (*Alternaria alternata*) and Soybean *Fusarium* root rot (*Fusarium orthoceras*).
- 35 10. The formulation of claim 2 wherein said formulation is effective in promoting cell growth and plant yields.